CLAIMS

What is claimed is:

1. A polyacetal resin composition consisting essentially of (a) a polyacetal resin, and (b) a low molecular weight primary or secondary amino compound of low volatility, containing at least one amino group and two or more carbon atoms, and having a pKb in the range of about 2 – 8; wherein the composition is characterized by a formaldehyde concentration at room temperature that is less than about 50% of the formaldehyde concentration of the polyacetal resin itself.

2. A composition according to Claim 1 wherein the amino compound has a pKb in the range of about 4 – 8.

3. A composition according to Claim 1 wherein the amino compound is characterized by $T_{bp} > T_m - 60°C$, where T_{bp} is the boiling point of the amino compound and T_m is the melting point of the polyacetal resin.

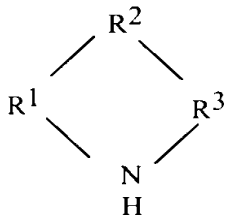
4. A composition according to Claim 1 wherein the amino compound is selected from the group consisting of monoethanolamine, diethanolamine, 2-amino-2-ethyl-propanediol, 2-amino-2-methyl-propanol, tris(hydroxymethyl)aminomethane, ethyl *p*-aminobenzoate, methyl anthranylate, butyl *m*-aminobenzoate, and mixtures thereof.

5. A composition according to Claim 1 wherein the amino compound is selected from the group consisting of tris(hydroxymethyl)aminomethane, ethyl *p*-aminobenzoate, and mixtures thereof.

6. A composition according to Claim 1 wherein the amino compound is present in the composition in an amount of about 0.01~10 parts by weight, per 100 parts by weight of the polyacetal resin.

7. A composition according to Claim 1 wherein the polyacetal resin is an acetal copolymer.

8. A composition according to Claim 1 further consisting essentially of an organic cyclic compound having an active imino group according to the formula



wherein R^1, R^2 and R^3 are divalent organic radicals.

9. A composition according to Claim 1 further consisting essentially of at least one additive selected from the

group consisting of nucleating agents, mold release agents, surfactants, impact modifiers, reinforcing agents, anti-static agents, plasticizers, lubricants, fillers and colorants.

10. A polyacetal resin composition comprising (a) a polyacetal resin, and (b) one or more amino compounds selected from the group consisting of diethanolamine, ethyl *p*-aminobenzoate, methyl anthranylate and butyl *m*-aminobenzoate; wherein the composition is characterized by a formaldehyde concentration at room temperature that is less than about 50% of the formaldehyde concentration of the polyacetal resin itself.

11. A composition according to Claim 10 wherein the amino compound has a pKb in the range of about 2 – 8.

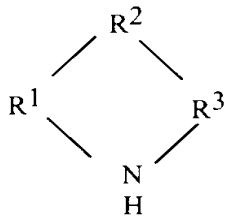
12. A composition according to Claim 10 wherein the amino compound is ethyl *p*-aminobenzoate.

13. A composition according to Claim 10 wherein the amino compound is present in the composition in an amount of about 0.01~10 parts by weight, per 100 parts by weight of the acetal homopolymer resin.

14. A composition according to Claim 10 wherein the polyacetal resin is an acetal copolymer.

15. A composition according to Claim 10 wherein the polyacetal resin is an acetal homopolymer resin end-capped with an ester group.

16. A composition according to Claim 10 further comprising an organic cyclic compound having an active imino group according to the formula



wherein R^1, R^2 and R^3 are divalent organic radicals.

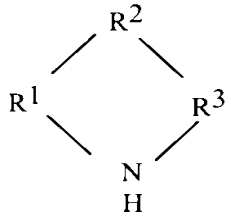
17. A composition according to Claim 10 further comprising at least one additive selected from the group consisting of nucleating agents, mold release agents, surfactants, stabilizers, impact modifiers, reinforcing agents, anti-static agents, antioxidants, plasticizers, lubricants, fillers and colorants.

18. A polyacetal resin composition comprising (a) a polyacetal resin, and (b) succinimide; wherein the composition is characterized by a formaldehyde concentration at room temperature that is less than about 50% of the formaldehyde concentration of the polyacetal resin itself.

19. A composition according to Claim 18 wherein the succinimide is present in the composition in an amount of about 0.01~10 parts by weight, per 100 parts by weight of the polyacetal resin.

20. A composition according to Claim 18 wherein the polyacetal resin is an acetal copolymer.

21. A composition according to Claim 18 further comprising an organic cyclic compound having an active imino group according to the formula



wherein R^1, R^2 and R^3 are divalent organic radicals.

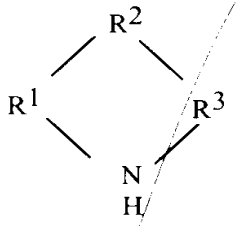
22. A composition according to Claim 18 further comprising at least one additive selected from the group consisting of nucleating agents, mold release agents, surfactants, stabilizers, impact modifiers, reinforcing agents, anti-static agents, antioxidants, plasticizers, lubricants, fillers and colorants.

23. A polyacetal resin composition comprising (a) a polyacetal resin, and (b) anthranilic acid, 4-amino benzoic acid, or a mixture thereof; wherein the composition is characterized by a formaldehyde concentration at room temperature that is less than about 50% of the formaldehyde concentration of the polyacetal resin itself.

24. A composition according to Claim 23 wherein the anthranilic acid, 4-amino benzoic acid or mixture thereof is present in the composition in an amount of about 0.01~10 parts by weight, per 100 parts by weight of the polyacetal resin.

25. A composition according to Claim 23 wherein the polyacetal resin is an acetal copolymer.

26. A composition according to Claim 23 further comprising an organic cyclic compound having an active imino group according to the formula



wherein R^1, R^2 and R^3 are divalent organic radicals.

27. A composition according to Claim 23 further comprising at least one additive selected from the group consisting of nucleating agents, mold release agents, surfactants, stabilizers,

impact modifiers, reinforcing agents, anti-static agents, antioxidants, plasticizers, lubricants, fillers and colorants.

28. A shaped article produced from a composition according to Claim 1.

29. A shaped article produced from a composition according to Claim 10.

30. A shaped article produced from a composition according to Claim 18.

31. A shaped article produced from a composition according to Claim 23.

32. A method for reducing the formaldehyde concentration of a part molded from a polyacetal resin, comprising

(a) forming a composition consisting essentially of (i) the polyacetal resin, and (ii) a low molecular weight primary or secondary amino compound of low volatility, containing at least one amino group and two or more carbon atoms, and having a pKb in the range of 2 – 8; wherein the composition is characterized by a formaldehyde concentration at room temperature that is less than about 50% of the formaldehyde concentration of the polyacetal resin itself; and

(b) molding the part from the composition.

33. A method according to Claim 32 further comprising the step of selecting as the amino compound a member of the group consisting of monoethanolamine, diethanolamine, 2-amino-2-ethyl-propanediol, 2-amino-2-methyl-propanol, tris(hydroxymethyl)aminomethane, ethyl *p*-aminobenzoate, methyl anthranylate, butyl *m*-aminobenzoate, and mixtures thereof.

34. A method according to Claim 33 further comprising the step of selecting as the amino compound a member of the group consisting of tris(hydroxymethyl)aminomethane, ethyl *p*-aminobenzoate, and mixtures thereof.

35. A method for reducing the formaldehyde concentration of a part molded from an polyacetal resin, comprising

(a) forming a composition comprising (i) the polyacetal resin, and (ii) one or more amino compounds selected from the group consisting of diethanolamine, ethyl *p*-aminobenzoate, methyl anthranylate and butyl *m*-aminobenzoate; wherein the composition is characterized by a formaldehyde concentration at room temperature that is less than about 50% of the formaldehyde concentration of the polyacetal resin itself; and

(b) molding the part from the composition.

36. A method according to Claim 35 further comprising the step of selecting as the amino compound ethyl *p*-aminobenzoate.

37. A method for reducing the formaldehyde concentration of a part molded from a polyacetal resin, comprising

(a) forming a composition comprising (i) the polyacetal resin, and (ii) succinimide; wherein the composition is characterized by a formaldehyde concentration at room temperature that is less than about 50% of the formaldehyde concentration of the polyacetal resin itself; and

(b) molding the part from the composition.

38. A method for reducing the formaldehyde concentration of a part molded from a polyacetal resin, comprising

(a) forming a composition comprising (i) the polyacetal resin, and (ii) anthranilic acid, 4-amino benzoic acid, or a mixture thereof; wherein the composition is characterized by a formaldehyde concentration at room temperature that is less than about 50% of the formaldehyde concentration of the polyacetal resin itself; and

(b) molding the part from the composition.